Amendment to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended): A method of electrochemically dyeing hair comprising the steps of:

~~iv)~~ i) applying to the hair an oxidative dye precursor mixture containing at least one primary intermediate having a standard Redox potential less than about 1 volt,

~~v)~~ ii) contacting the oxidative dye precursor mixture on the hair with an electrode system that provides sufficient voltage to electrochemically oxidize the at least one primary intermediate to produce a reactive intermediate that generates colored dye through a coupling reaction with an oxidative dye precursor present in the mixture,

wherein the reactive intermediate is a quinone monoimine, a quinone diimine, a substituted quinone mono- a substituted quinone diimine , an indole imine, a substituted indole imine, or mixtures thereof.

2. (Original): The method according to claim 1 wherein the primary intermediate is selected from the group consisting of p-phenylenediamine, substituted p-phenylenediamine, p-aminophenol, substituted p-aminophenol, an indole, a substituted indole and mixtures thereof.

3. (Original): The method according to claim 1 wherein the oxidative dye precursor further comprises a coupler selected from the group consisting of m-substituted phenols, aminophenols and diamines, their derivatives, and mixtures thereof.

4. (Original): The method according to claim 1 wherein the oxidative dye precursor mixture has a pH in the range from about 5 to about 10.

5. (Original): The method according to claim 1 wherein the oxidative dye precursor mixture has a pH in the range from about 7 to about 10.

6. (Original): The method according to claim 1 wherein the oxidative dye precursor mixture additionally contains supporting electrolytes which are electrochemically inert salts selected from the group consisting of perchlorates, sulfates, borates, and mixtures thereof.

7. (Original): The method according to claim 1 wherein the oxidative dye precursor mixture is free of chemical oxidizing agents and/or ammonia.

8. (Original): The method according to claim 1 wherein the oxidative dye precursor mixture additionally comprises a shear thinning electrically conducting gel.

9. (Original): The method according to claim 1 wherein the electrode system comprises a plurality of anodes in contact with the precursor mixture on the hair and one or more cathodes, wherein the total surface area of the anodes is greater than the total surface area of the cathodes.

10. (Original): The method according to claim 1 wherein the electrode system further comprises an aligning and distributing means comprising at least one comb element or at least one brush element or a combination of comb and brush elements.

11. (Original): The method according to claim 1 wherein the electrode system further comprises a cloth or plastic bonnet or cap into which electrodes are embedded that can contact the hair to which the precursor mixture is applied.

12. (Original): The method according to claim 1 wherein the voltage is provided by a disposable or rechargeable battery or an electrical storage device that converts mechanical energy to electricity or an AC to DC converter.

13. (Original): The method according to claim 1 wherein the electrode system further comprises a switch, an on-off indicator, a voltage or current regulator, and a delivery means for the precursor mixture or combinations thereof.

14. (Original): The method according to claim 1 wherein the electrode system provides a regulatable voltage such that different colored dye molecules can be produced from a single dye precursor mixture depending upon the voltage selected.

15. (Original): The method according to claim 1 wherein at least 50% of the colored dye molecules that are formed are formed electrochemically and not by chemical oxidation from either a bleach or oxygen present in the air or generated electrochemically.

16. (currently amended): A system for electrochemically dyeing the hair comprising:

~~iv)~~ i) an oxidative dye precursor mixture comprising at least one primary intermediate having a standard oxidation potential less than about 1V,

~~v)~~ ii) an electrode system that provides sufficient voltage to electrochemically oxidize at least one of the primary intermediates to produce a reactive intermediate that generates colored dye molecules through a coupling reaction with an oxidative dye precursor present in the mixture,

wherein the reactive intermediate is a quinone monoimine, a quinone diimine, a substituted quinone mono- a substituted quinone diimine , an indole imine, a substituted indole imine, or mixtures thereof.

17. (currently amended): The system according to claim ~~15~~16 wherein the primary intermediate is selected from the group consisting of p-phenylenediamine, substituted p-phenylenediamine, p-aminophenol, substituted p-aminophenol, an indole, a substituted indole and mixtures thereof.

18. (currently amended): The system according to claim ~~15~~16 wherein the oxidative dye precursor mixture further comprises a coupler selected from the group consisting of m-substituted phenols, aminophenols and diamines, their derivatives, and mixtures thereof.

19. (currently amended): The system according to claim ~~15~~16 wherein the oxidative dye precursor mixture has a pH in the range from about 5 to about 10.

20. (currently amended): The system according to claim ~~15~~16 wherein the oxidative dye precursor mixture has a pH in the range from about 7 to about 10.

21. (currently amended): The system according to claim ~~15~~16 wherein the oxidative dye precursor mixture additionally contains salts selected from the group consisting of perchlorates, sulfates, borates, and mixtures thereof.

22. (currently amended): The system according to claim ~~15~~16 wherein the oxidative dye precursor mixture is free of chemical oxidizing agents and/or ammonia.

23. (currently amended): The system according to claim ~~15~~16 wherein the electrode system comprises a plurality of anodes in contact with the precursor mixture on the hair and one or more cathodes, wherein the total surface area of the anodes is greater than the total surface area of the one or more cathodes.

24. (currently amended): The system according to claim ~~15~~16 wherein the electrode system is further comprised of an aligning and distributing means comprising at least one comb element or one brush element or a combination of comb and brush elements.

25. (currently amended): The system according to claim ~~15~~16 wherein the electrode system further comprises a cloth or plastic bonnet or cap into which electrodes are embedded that can contact the hair to which the precursor mixture is applied.

26. (currently amended): The system according to claim ~~15~~16 wherein the voltage is provided by a disposable or rechargeable battery, a storage device that converts mechanical energy to electrical energy or an AC to DC converter.

27. (currently amended): The system according to claim ~~15~~16 wherein the electrode system further comprises a switch, an on-off indicator, a voltage or current regulator, and a delivery means for the precursor mixture or combinations thereof.

28. (currently amended): The system according to claim ~~15~~16 wherein the electrode system provides a regulatable voltage such that different colored dye molecules can be produced from a single dye precursor mixture depending upon the voltage selected.

29. (currently amended): The system according to claim ~~15~~16 additionally including written instructions to first apply the oxidative dye precursor mixture to the hair, and after a period of time ranging from about 0.5 minutes to 45 min, apply the electrode system and allow it to contact the hair for a period of time ranging from about 30 seconds to about 30 minutes.